

WEST Search History

DATE: Thursday, April 17, 2003

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
	<i>DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ</i>		
L7	L5 and (spinal cord).ti.	4	L7
L6	L5 and (pig or porcine).ti.	9	L6
L5	L4 and treat\$	1300	L5
L4	L3 and embryonic	1303	L4
L3	L2 and spinal cord	2318	L3
L2	L1 and (xenotransplant\$ or xenograft or transplant\$ or implant\$ or engraft or graft)	18864	L2
L1	porcine or pig	72096	L1

END OF SEARCH HISTORY

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Set	Items	Description
S1	57580	(PIG OR PORCINE) AND (XENOGRAFT OR TRANSPLANT? OR IMPLANT? OR ENGRAFT OR GRAFT)
S2	1072	S1 AND EMBRYONIC
S3	18133	2 AND XENOGRAFT
S4	109	S2 AND XENOGRAFT
S5	54	RD (unique items)
S6	2	S5 AND SPINAL(W)CORD
S7	38	XENOTRANSPLANT? AND (PIG OR PORCINE) AND SPINAL(W)CORD
S8	30	RD (unique items)
S9	4	S8 AND EMBRYONIC
?		

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Dialog

file: medicine

6/3,AB/1 (Item 1 from File: 34)
DIALOG(R) File 34:SciSearch(R) Cited Ref Sci
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04338915 Genuine Article#: RW554 Number of References: 80

Title: **EXTENSIVE AXONAL AND GLIAL FIBER GROWTH FROM FETAL PORCINE CORTICAL XENOGRAFTS IN THE ADULT-RAT CORTEX** (Abstract Available)

Author(s): GARCIA AR; DEACON TW; DINSMORE J; ISACSON O

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ST/BELMONT//MA/02178; MCLEAN HOSP,MRC,NEUROREGENERAT

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NEUROSURG/BOSTON//MA/02114; HARVARD UNIV,MASSACHUSETTS GEN HOSP,SCH

MED,DEPT NEUROL/BOSTON//MA/02114; HARVARD UNIV,MASSACHUSETTS GEN

HOSP,SCH MED,PROGRAM NEUROSCI/BOSTON//MA/02114; BOSTON

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Abstract: Axonal growth from cortically placed fetal neural **transplants** to subcortical targets in adult hosts has been difficult to demonstrate and is assumed to be minimal; however, experiments using xenogeneic neural grafts of either human or **porcine** fetal tissues into the adult rat striatum, mesencephalon, and **spinal cord** have demonstrated the capability for long-distance axonal growth. This study reports similar results for **porcine** cortical xenografts placed in the adult rat cerebral cortex and compares these findings with results from cortical allografts. Adult rats that previously received unilateral cortical lesions by an oblique intracortical stereotaxic injection of quinolinic acid, were **implanted** with suspensions of either E14 rat or E38 xenogeneic **porcine** fetal cortical cells. Xenografted rats were immunosuppressed by cyclosporin A. The corpus callosum was intact in all cases and grafts were confined to the overlying cortex. After a 31-34 wk posttransplant survival period, acetylcholinesterase (AChE) staining and tyrosine hydroxylase (TH) immunocytochemistry revealed that both allo- and xenografts received host afferents. Retrograde tracer injections into the ipsilateral striatum and cerebral peduncle in allografted animals failed to show any axonal growth to either subcortical target. Using a **porcine** -specific axonal marker in xenografted animals, we found **graft** axons in white matter tracts (corpus callosum, internal capsule, cingulum bundle, and medial forebrain bundle) and within the caudate-putamen and both the ipsilateral and contralateral cerebral cortex. **Graft** axons were not found in the thalamus, midbrain, or **spinal cord**. In addition, using an antibody to **porcine** glial fibers, we observed more extensive **graft** glial fiber growth into the same host fiber tracts, as far caudally as the cerebral peduncle, but not into gray matter targets outside the cortex. These results demonstrate that **porcine** cortical **xenograft** axons and glia can extend from lesioned cerebral cortex to cortical and subcortical targets in the adult rat brain. These findings are relevant for prospects of repairing cortical damage and obtaining functional recovery.